RURAL SCIENCE / LAND-BASED STUDIES
at Elemore Hall School

Rationale

At Elemore Hall School, we are extremely fortunate to have a 25-acre livestock farm. We have a forty ewe sheep flock, several rearing calves, a thirty hen poultry unit and several ducks.
The subject allows pupils to encounter experiences and opportunities they would not get in other schools or in their normal day to day life.

INTENT

The farm provides our pupils with an alternative and varied curriculum which links closely with other subjects, including core subjects. The curriculum is structured to take pupils on a journey from being complete agricultural and horticultural novices to skilful, experienced and knowledgeable individuals, who can take their know-how into college or the workplace with increased confidence. It enables pupils to become independent enquirers, team players, self-managers, creative thinkers, reflective individuals and effective participators, who are determined, adaptable, confident and resilient. It is also designed to aid pupils to develop a positive work ethic needed to achieve in post-16 education or in the workplace. In addition, pupils become skilled in literacy, numeracy, ICT, as well as in personal learning and thinking skills; all highly valued in the agricultural and horticultural workplace.

In year 7, all pupils begin by completing their Health and Safety course, designed to ensure awareness of the many dangers and how easily accidents can occur on a farm. They are given the tools to make instant risk assessments (identify and avoid risk and keeping themselves and others safe). We then move onto the 'Poultry' topic, which is an ideal starter 'livestock type' for pupils with little or no livestock experience or knowledge. Chickens are easily handled and are a safer option than handling larger livestock, such as sheep. The topic takes pupils through said industry, giving them an all-round understanding of it. They learn about traditional and modern, as well as heavy and light breeds, housing systems, health checks/concerns/treatments, the egg and how each part has a role in the development of the chick, incubating eggs, care of the chick and safe handling of poultry.

In year 8, pupils follow a similar learning path, as they complete their 'Pig' Topic. They learn about traditional and modern pig breeds, how science and genetic research has developed the modern breed and its impact on the modern pig industry, housing systems, how consumer choice affects farming patterns, tail docking, Anaemia in piglets and maintaining health and welfare in a herd. Pupils also begin to develop horticultural skills and knowledge as they assist with planting (from seed) a wide range of flowering plants that are grown in our greenhouse. Pupils learn to care for the plants, i.e. transplanting, watering and 'hardening off'. They prepare the flower beds and design a colourful display that they then plant and care for throughout the spring and summer months.

In year 9, pupils focus on the Cattle and Sheep industries, whilst preparing for their qualifications in key stage 4. They build their knowledge and practical skills, covering areas such as traditional and continental breeds, the use of a terminal sire, pedigree breeding, crossbreeding, differences between upland and lowland flocks, use of technology within both sectors, feed requirements, maintaining healthy animals and the prevention and treatment of diseases/conditions.
Pupils are encouraged to develop their independent research skills and write extended pieces in the same format as they will be required for their qualification in year 10, thus making the transition to their qualification a smooth one.

Overall, the key stage 3 curriculum prepares pupils for the key stage 4 BTEC qualifications.

In years 10 and 11, pupils begin working on their BTEC Land-Based Studies qualification. The qualification is tailor-made and builds on the experiences and knowledge gained in key stage 3. Pupils can choose from a wide range of units that suit their chosen interest, and can have several units 'live' at the same time, which may differ from other pupils' chosen units, so the course is personal and valid to them.

Curriculum Map

	AUTUMN	SPRING	SUMMER
7	**Health & Safety**	**Poultry**	
	Common causes of death to children on UK farms Who is responsible? Safety Rules H&S Executive	Jungle Fowl Poultry Breeds & Gender names Housing Systems Disease/illnesses	The egg Incubation Hatching chicks Care of chicks
	Pigs		
8	Breeds & Gender Names Traditional and Modern Breeds Rare breeds	Housing systems - indoor & outdoor. Different pig meats/cuts Housing enrichment Stocking densities	Diseases/illnesses Tail docking Role of genetics in breed improvements
	Sheep & Cattle		
9	Breeds & Gender Names Traditional and Modern Breeds Upland and Lowland flocks Rare breeds	The role of the 'Terminal Sire' Pedigree and cross-bred breeds The role of the beef bull within the dairy industry	Common disease/illnesses The role of EBV's within the beef industry, specifically bull selection Housing systems & stocking densities Use of technology with this sector i.e. electronic ear tagging, flock/herd management programmes
	BTEC Qualifications		
10 & 11	**Units include:** Land-Based Machines within Land-Based Industries Estate Maintenance Small Animal Care Maintaining the Health of Animals Horse Care Aquatic Environments Animal Husbandry a range of horticultural units		

IMPLEMENTATION

Rural Science allows pupils to combine academic and practical knowledge through a variety of carefully planned activities with the practical elements aimed at enhancing the class-based learning. Depending on individual needs of pupils, activities are completed in pairs, small groups or individually. Classroom-based learning plays a vital role in laying the foundations required to allow pupils to fully benefit from their practical sessions with a common thread running throughout each yearly topic. This allows pupils to understand certain basic aspects of each livestock type they will learn about. The

advantage of maintaining the ‘common thread’ is that pupils have ample time to develop a breadth of subject knowledge and have opportunities for deeper learning.

As the pupils build on their animal husbandry knowledge, they transfer these skills/knowledge to other livestock types and into their practical skills that they develop while working on our school farm.
Many different teaching/learning styles (see below) are used to allow pupils access the curriculum, with individual learning requirements carefully considered.

- short tasks, which may involve specific learning objectives
- long tasks, which may cover a range of learning
- fast thinking activities - to introduce group work or as a stimulus for certain concepts, including the use of active learning strategies such as simulation, brainstorming and discussion
- research tasks - to extend learning or to focus on particular knowledge
- demonstration - to indicate good working practices when showing specific know-how, procedures, and processes
- skills practice - to reinforce learning and to develop manipulative skills
- factual tasks - to impart knowledge and information
- focused practical activities in which specific skills and knowledge are targeted and used as a foundation, which can inform a more open activity where pupils have more influence over the origin and direction of their projects, having a greater responsibility for their work
- group work activities - where pupils are expected to develop communication skills and work as part of a team. To discuss/demonstrate outcomes of their work to peers and staff and identify what went well and any areas for improvement

Topics are looked at in more depth until knowledge is demonstrated independently or with minimal support. During practical sessions, basic skills, which are taught in year 7, are steadily built upon as they care for livestock/complete practical tasks with increasing knowledge, understanding and skill level. Each topic is being constantly built upon, with the aim that every pupil will eventually be able to have a good understanding of several livestock types, complete a wide range of animal husbandry tasks and have a wide range of transferrable skills that they can take into further education or employment.

Pupils are made aware of learning objectives and are involved in their own assessments and reviews. In key stage 3, each topic has an ‘I can do’ assessment sheet which staff and pupils complete once both agree that certain knowledge/skill has been secured. This system allows pupils to see what teaching is planned, what they are required to learn and discussions that have taken place when agreeing progress and setting new targets.

We promote literacy and numeracy, as these aid functioning in the class and on the farm and are vital to access qualifications. Literacy is developed through reading a wide variety of information sources including, books, magazines, feeding instructions/labels, medical dosage requirements, tractor maintenance handbook, mart reports and many other sources that will be required in a ‘real life’ farming situation.
Numeracy plays a vital role within farming and pupils are encouraged to view numeracy as a positive and vital skill. They develop their numeracy skills in a wide range of ‘real life’ situations, such as - weighing animal feeds, weighing milk substitute, calibrating wormer/vaccination equipment, estimating livestock weights, accurately weighing lambs, carcase grading, calculating stocking densities, calculating lambing percentage, calculating feed costs and feed usage over time.

We offer cross-curricular opportunities. For example: Science - understanding the importance of livestock genetics, medical treatments and improvements, use of chemicals within farming such as fertilizer; Food Technology – food types (meat, grains, fruit), healthy eating, consumer preferences, improvements in quality of food; History – how Romans transported different livestock types around

the world, domestication of livestock, traditional breeds, traditional farming methods; Geography - where livestock types originated i.e., Native and Continental breeds.

Health and Safety is of paramount importance. Pupils are immediately made aware of expectations and rules that must be followed on the farm and these are revisited on a regular basis. At the start of year 7, pupils complete a Health and Safety topic on their arrival and must pass a written test before accessing the farm.

Pupils are expected to evidence their practical work and knowledge accurately, using descriptive text and paying particular attention to use subject related terminology. This skill is important as it prepares pupils to produce good quality written evidence for their qualifications and to feel more comfortable in a real-life working environment.

As we have a fully functioning working farm, all pupils assist with a range of estate maintenance tasks and the care of livestock. Pupils have opportunities to build up a bank of skills and knowledge that is developed over time and play a key role in the success of the farm and its ongoing development.

Reading Development in Land-based Studies

Reading and literacy has always been a vital aspect of the subject. Pupils are regularly encouraged to read out loud in lessons. We focus on keywords to ensure pupils know their meanings and understand the context. Without this, I believe it is difficult for them to grasp the 'topic' as a whole.
Subject terminology is also of vital importance for their BTec qualifications, e.g. instead of writing: “We worked with the sheep today”, they would have to write: “We worked with the pregnant ewes and Gimmers today”. Keyword posters are displayed in the classroom to allow pupils to recognise and familiarise themselves with subject specific key words and keyword spelling sheets in their files are available to them every lesson.

Reading (both group and individual) is encouraged at every step/stage/opportunity within lessons. Pupils are always asked first if they are confident to read out loud; if not, I do not force the issue but try to build their confidence over time.
Apart from formal worksheets, pupils are also encouraged to read instructions on feed bags, mixing instructions on bags of milk powder, dosing instructions on wormer/vaccination medications, the tractor maintenance manual, mart sales reports and a range of other sources. I also subscribe to the *Farmers Weekly* and *BASC* magazines that pupils can read through in school as well as on the residential units.

Key stage 4 pupils regularly read an information sheet that explains how to word good quality responses, which aids them to produce their written evidence in the required format and ensures key information is included. Even though pupils usually have great subject knowledge, they do struggle to start their written work. For this reason, I provide them with written prompts, i.e. “Today I was asked to ...”, “These photos show me...” etc.

Spelling mistakes are marked and feedback given and checked that they have been read and understood.

Additional/Adapted Support and Stretch/Extend/Challenge

A subject specific Learning Support Assistant is available to support where needed. All abilities are considered during lesson planning and alternative tasks or ways of completing tasks are provided to enable all to fully access and engage with the Rural Science curriculum.
Extension work is available for pupils who are achieving at a higher level to challenge and stretch them.

Enrichment

We are committed to offer a broad curriculum, which means offering a rich diet of learning experiences. Successful enrichment approaches that draw on a wide range of life skills are offered through school trips and visiting specialists. Pupils take part in visiting Leyburn Auction Mart to assist with purchasing calves for our farm. We also visit Carlisle Auction Mart to see pedigree livestock being sold, as this allows our pupils to see some of the best quality animals in the country.
Each summer, a group of pupils visits the Great Yorkshire Show, which is always a very popular trip, allowing pupils to see a wide range of farming activities and practices.

These visits are important, as they are often 'real life' events where farmers are selling/showing their livestock and produce, and it allows our pupils to gain an appreciation for the effort and care that goes into producing high quality livestock. It also provides the opportunity for our pupils to speak to farmers and those involved in land-based industries and become more comfortable and confident in discussing their hopes and aspirations.

Links with evening activities

Pupils are encouraged to take part in the after school 'Farm Club' which allows them to work in small groups/individually to catch up missed work or to complete further work on their relevant topic of their BTEC portfolio.

Steps and Assessment

An extensive range of class based and stimulating assessments are available to ascertain knowledge. Pupils' understanding is assessed through discussions about their work and verbal feedback is given on both their topic knowledge and practical know-how. At the end of each topic, a written test is given to check the pupils are retaining learned knowledge and are ready to progress.
Evidence of each pupil's progress is logged on Classroom Monitor and noted in Steps/Measures of Progress. Assessment is on-going throughout the lifetime of the units and pupils are kept informed of their progress, using their 'unit tracker'.
As Year 10 and 11 pupils progress through their BTEC qualifications, their progress is constantly monitored, assessed and recorded, in line with BTEC requirements.

IMPACT

The aim of the Land-Based Studies department is to ensure our pupils have a range of skills, knowledge and a positive work attitude that is transferable to any industry, and that gives them the best opportunity to feel confident to go onto college or into the workplace and feel that they can contribute.
The specifically designed curriculum supports and encourages pupils, whatever their ability or previous experiences, to be the best that they can be.
Almost all pupils leave Elemore Hall School with a qualification that will assist them with gaining access to college or the workplace.
Pupils leave us feeling confident and equipped to face the challenges that life may bring.

Accreditation

BTEC
These are qualifications that suit a range of academic levels. Depending on individuals' abilities, they can complete Entry Level or Level 1 Awards or Certificates, recognised nationally, and it helps create pathways to further education in agricultural courses.